

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **15 JUN 2006**

Applicant's or agent's file reference

18016-21

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US06/03686

International filing date (day/month/year)

03 February 2006 (03.02.2006)

Priority date (day/month/year)

03 February 2005 (03.02.2005)

International Patent Classification (IPC) or both national classification and IPC

IPC: **A61K 36/00**(2006.01)

USPC: 424/776

Applicant

SIGNUM BIOSCIENCES, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Date of completion of this opinion

23 May 2006 (23.05.2006)

Authorized officer

Randall Winston

Telephone No. 571-272-0972

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US06/03686

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US06/03686

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-162</u>	YES
	Claims <u>NONE</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-162</u>	NO
Industrial applicability (IA)	Claims <u>1-162</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-162 lack inventive step under PCT Article 33(3) as being unpatentable over BREITBARTH (US 5,502,056). Breithbarth teaches (see, e.g. column 2 lines 14-24) the claimed invention of a pharmaceutical composition comprising a compound isolated from a botanical raw material (i.e. the isolated material is Coffea to isolate a methylation modifying compound of a water or alcohol extract) wherein when the pharmaceutical composition and/or isolated compound is administered to a subject, the compound would have the intrinsic effect of inhibiting a demethylating enzyme to promote the general health of the subject. Breithbarth does not teach all the claimed botanical raw material and all the forms of the composition. However, based on the overall teachings of Breithbarth, the adjustment of other conventional working conditions therein (i.e. the substitution of one botanical material for the other, the substitution of one form for the other, the pH and the alcohol substitution of the extract), is deemed judicious selection and routine optimization which is well within the purview of the skilled artisan.

Claims 1-162 meet the novelty criteria set out in PCT Article 33(2) because there is no express teachings of all the claimed botanical material and all the claimed forms.

Claims 1-162 meet the criteria set out in PCT Article 33(4) and thus claims 1-162 have industrial applicability because the subject matter claimed can be made or used industry.